Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-19235-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: **08.10.2020**

Date of issue: 08.10.2020

Holder of certificate:

Impetus GmbH & Co. Bioscience KG
Labor für Molekularbiologische Analytik
Fischkai 1, 27572 Bremerhaven

Tests in the fields:

molecular biological analyses in food- and feedstuffs, seeds as well as textile fibres; immunological detection in food- and feedstuffs; microbiological and selected chemical and physico-chemical analyses of food- and feedstuffs

Within the given testing field marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the free choice of standard or equivalent testing methods. The listed testing methods are exemplary.

Within the given testing field marked with **, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, the modification, development and refinement of testing methods.
The listed testing methods are exemplary.

The testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue date. The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

The management system requirements in DIN EN ISO/IEC 17025 are written in language relevant to operations of testing laboratories and operate generally in accordance with the principles of DIN EN ISO 9001.

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH. https://www.dakks.de/en/content/accredited-bodies-dakks

1 Molecular biological analyses of food- and feedstuffs, seeds as well as textile fibres

1.1 Qualitative detection of genetically modified organisms in food- and feedstuffs, seeds by PCR **

ASU L 00.00-31 2001-07 and correction 2002-12	Analysis of foodstuffs - Screening for the detection of genetically modified DNA sequences in foodstuffs by the detection of DNA sequences frequently occuring in genetically modified organisms
IB-C009 2004-05	Qualitative PCR System for the event specific detection of StarLink™-Maize CBH351
IB-C020 2005-04	Qualitative PCR System for the construct specific detection of SeedLink-Rape (InVigor, Ms8, Rf3, Ms8xRf3) and -Maize

1.2 Qualitative detection of genetically modified organisms in food- and feedstuffs, seeds as well as textile fibres

1.2.1 Qualitative detection of genetically modified organisms in food- and feedstuffs, seeds as well as textile fibres by Real Time PCR **

IWA 32 2019-04	Screening of genetically modified organisms (GMOs) in cotton and textiles
IB-T001 2006-10	Qualitative Real-Time-PCR-system for the event specific detection of LibertyLink™ rice 601 (LLRICE601)
IB-T002 2006-10	Qualitative Real-Time-PCR-system for the event specific detection of LibertyLink™ rice 62 (LLRICE62)
IB-T005 2007-04	Qualitative Real-Time-PCR-system for the event specific detection of Herculex™ maize TC 1507
IB-T006 2013-06	Qualitative Real-Time-PCR-system for the event specific detection of MIR604-maize
IB-T007 2007-10	Qualitative Real-Time-PCR system for the event specific detection of MON88017-maize
IB-T008 2008-04	Qualitative Real-Time-PCR-system for the event specific detection of DAS-59122-7-maize
IB-T009 2008-04	Qualitative Real-Time-PCR-system for the construct specific detection of BT11 maize

IB-T011 2007-07	Qualitative Real-Time PCR-system for the event specific detection of 3006-210-23 cotton
IB-T012 2018-02	Qualitative Real-Time-PCR-system for the event specific detection of Roundup Ready® cotton MON1445
IB-T013 2008-08	Qualitative Real-Time-PCR system for the event specific detection of 281-24-236 cotton
IB-T014 2018-02	Qualitative Real-Time-PCR-system for the event specific detection of Bollgard® cotton MON531
IB-T025 2010-10	Qualitative Real-Time-PCR-system for the construct specific detection of the transition from CTP2 to CP4-EPSPS gene
IB-T026 2019-07	Qualitative Real-Time-PCR-system for the event specific detection of DP305423-1 soybean
IB-T027 2019-07	Qualitative Real-Time-PCR-system for the event specific detection of DP356043-5 soybean
IB-T029 2019-07	Qualitative Real-Time-PCR-system for the event specific detection of MON89034 maize
IB-T030 2010-09	Qualitative Real-Time-PCR-system for the event specific detection of 3272 maize
IB-T031 2019-07	Qualitative Real-Time-PCR-system for the event specific detection of MON89788 soybean
IB-T032 2013-04	Qualitative Real-Time-PCR-system for the event specific detection of Ly038 maize
IB-T034 2019-07	Qualitative Real-Time-PCR-system for the event specific detection of Event A2704-12 soybean (LibertyLink)
IB-T035 2013-04	Qualitative Real-Time-PCR-system for the construct specific detection of the transition from nos promoter to the nptII gene
IB-T046 2011-03	Qualitative Real-Time-PCR-system for the specific detection of *bar* gene sequence
IB-T047 2011-03	Qualitative Real-Time-PCR-system for the event specific detection of LibertyLink T25-Maize

IB-T048 2017-12	Qualitative Real-Time-PCR-system for the specific detection of the FMV promoter sequence from the Figwort Mosaic Virus (FMV)
IB-T049 2019-07	Qualitative Real-Time-PCR-system for the specific detection of nptII gene sequence
IB-T050 2011-03	Qualitative Real-Time-PCR-system for the specific detection of synthetic PAT gene (synPAT)
IB-T051 2019-07	Qualitative Real-Time-PCR-system for the event specific detection of event A5547-127-soybean
IB-T053 2012-02	Qualitative Real-Time-PCR-system for the event specific detection of DP98140-maize
IB-T054 2012-02	Qualitative Real-Time-PCR-system for the event specific detection of MIR162-maize
IB-T056 2012-03	Qualitative Real-Time-PCR-system for the event specific detection of RT73/GT73 rapeseed (Roundup Ready® Canola)
IB-T057 2012-07	Qualitative Real-Time-PCR-system for the construct specific detection of the transition from SAMS (S-adenosyl-L-methionine synthetase) promoter to the gmHRA gene in DP305423-1-soybean and DP356043-5-soybean
IB-T064 2019-07	Qualitative Real-Time-PCR-system for the event specific detection of BPS-CV127-soybean
IB-T067 2013-01	Qualitative Real-Time-PCR-system for the detection of cry1Ab/ cry1Ac DNA sequence
IB-T070 2018-02	Qualitative Real-Time-PCR-system for the event specific detection of MON87701-soybean
IB-T077 2013-05	Qualitative Real-Time-PCR-system for the event specific detection of DAS-40278-9-maize
IB-T078 2019-07	Qualitative Real-Time-PCR-system for the event specific detection of MON87705-soybean
IB-T079 2017-11	Qualitative Real-Time-PCR-system for the event specific detection of MON87460-maize
IB-T084 2018-08	Qualitative Real-Time-PCR-system for the event specific detection of FG72-soybean

IB-T087 2013-11	Qualitative Real-Time-PCR-system for the event specific detection of T45 rapeseed
IB-T100 2015-07	Qualitative Real-Time-PCR-system for the detection of ORF138 as a marker for CMS (cytoplasmatic male sterility) in *Brassicaceae*
IB-T103 2018-02	Qualitative Real-Time-PCR-system for the event specific detection of MON15985-cotton
IB-T104 2014-05	Qualitative Real-Time-PCR-system for the event specific detection of BT63-rice (Event TT51)
IB-T121 2017-11	Qualitative Real-Time-PCR-system for the event specific detection of Event 5307-maize
IB-T130 2016-07	Qualitative Real-Time-PCR-system for the event specific detection of MON863-maize (MaxGard)
IB-T141 2017-06	Qualitative Real-Time-PCR-system for the event specific detection of MON87712-soybean
IB-T144 2017-11	Qualitative Real-Time-PCR-system for the event specific detection of MON87427-maize
IB-T151 2018-02	Qualitative Real-Time-PCR-system for the event specific detection of Event EH92-527-1-potato
IB-T154 2019-04	Qualitative Real-Time-PCR-system for the detection of Cassava Vein Mosaic Virus (CsVMV-) promoter

1.2.2 Qualitative detection of genetically modified organisms in food- and feedstuffs, seeds as well as textile fibres by multiplex-Real-Time-PCR **

IB-T019 2009-03	Qualitative Real-Time-duplex PCR system for the detection of 35S promoter from the Cauliflower Mosaic Virus (CaMV) and NOS terminator of *Agrobacterium tumefaciens* (The p35S system does not detect DP-098140-6-maize)
IB-T021 2010-04	Qualitative Real-Time duplex PCR system for the detection of 35S promoter of Cauliflower Mosaic Virus (CaMV) and the transition from CTP2 to the CP4-EPSPS-gene
IB-T022 2010-04	Qualitative Real-Time-duplex PCR system for the detection of 35S promoter of Cauliflower Mosaic Virus (CaMV) and NOS terminator of *Agrobacterium tumefaciens*

IB-T058 2012-09	Qualitative Real-Time duplex PCR system for the detection of synPAT gene and the transition from CTP2 to the CP4-EPSPS-gene
IB-T059 2012-09	Qualitative Real-Time duplex PCR system for the specific detection of bar gene sequence and the transition from SAMS promoter to the gmHR- gene
IB-T102 2019-08	Qualitative Real-Time triplex PCR system for the detection of 35S promoter, NOS terminator and FMV promoter sequence in sugarbeet
IB-T107 2019-07	Qualitative Real-Time triplex PCR system for the event specific detection of DAS-40278-9-, Ly038- and VCO-01981-5-maize
IB-T125 2016-02	Qualitative Real-Time duplex PCR system for the event specific detection of DAS44406 und DAS68416-soybean
IB-T126 2016-05	Qualitative Real-Time duplex PCR system for the event specific detection of MON87708 and MON87769-soybean
IB-T134 2019-06	Qualitative Real-Time duplex PCR system for the event specific detection of GTS 40-3-2 (RRS I) und MON89788 (RRS II)-maize
IB-T135 2016-10	Qualitative Real-Time duplex PCR system for the detection of 35S terminator from the Cauliflower Mosaic Virus (CaMV) and E9 terminator of pea (*Pisum sativum*)
IB-T136 2016-10	Qualitative Real-Time triplex PCR system for the detection of 35S terminator and for the event specific detection of DAS-40278-9 and Ly038-maize
IB-T137 2017-06	Qualitative Real-Time duplex PCR system for the event specific detection of GHB119 and GHB614-cotton
IB-T138 2016-11	Qualitative Real-Time duplex PCR system for the detection of 35S terminator of Cauliflower Mosaic Virus (CaMV) and synthetic PAT gene (synPAT) in maize
IB-T139 2017-07	Qualitative Real-Time duplex PCR system for the event specific detection of DAS81419 and SYHT0H2-soybean
IB-T140 2017-11	Qualitative Real-Time duplex PCR system for the event specific detection of MON87751 and MON87754-soybean
IB-T142 2017-06	Qualitative Real-Time triplex PCR system for the event specific detection of DP061061, DP073496 and MON88302-rapeseed

IB-T143 2017-07	Qualitative Real-Time duplex PCR system for the event specific detection of DP04114 and MON87403-maize
IB-T145 2017-07	Qualitative Real-Time triplex PCR system for the event specific detection of DAS40278, LY038 and DP32138-maize
IB-T146 2017-08	Qualitative Real-Time duplex PCR system for the event specific detection of MON88701 and MON88913-cotton
IB-T147 2017-08	Qualitative Real-Time duplex PCR system for the event specific detection of LL25 and T304-40-cotton
IB-T148 2017-11	Qualitative Real-Time duplex PCR system for the event specific detection of MON87411 and MON87419-maize
IB-T149 2017-11	Qualitative Real-Time duplex PCR system for the event specific detection of DP33121 and DP32316-maize
IB-T155 2019-04	Qualitative Real-Time tetraplex PCR system for the event specific detection of Ms8, Rf3, T45 und RT73-rapeseed
IB-T158 2019-04	Qualitative Real-Time tetraplex PCR system for the event specific detection of MON810, MON89034, Herculex TC1507 und NK603-maize

1.3 Qualitative detection of species in food- and feedstuffs, as well as seeds by sequencing **

ASU L 10.00-12 2012-07	Analysis of foodstuffs - Identification of the fish species in raw and processed fish and fishery products by DNA analysis of the cytochrome b gene sequence (Deviation: *all animal species except for birds*)
ASU L 12.01-03 2012-07	Analysis of foodstuffs - Identification of the crustacean species in raw crustaceans and crustacean products by analyses of the 16S rRNA sequence
IB-D001 2004-11	Sequence analysis of a specific fragment of the mitochondrial cytochrome b gene for the Identification of animal species
IB-D004 2004-05	Sequence analysis of the specific fragment of the mitochondrial $tRNA^{Glu}$-cytochrome b gene for the Identification of animal species (except for birds)

IB-D006 2011-04	Sequence analysis of a specific fragment of the mitochondrial cytochrome b gene for the Identification of canned-tuna
IB-D023 2011-04	Sequence analysis of the mitochondrial control region for the Identification of hakes (*Merluccius* species)
IB-D036 2019-08	Sequence analysis of a specific fragment of the mitochondrial cytochrome b gene for the Identification of squids (Coleoidea)
IB-D037 2015-08	Sequence analysis of a specific fragment of the mitochondrial cytochrome c oxidase gene for the Identification of shrimps
IB-D038 2015-08	Sequence analysis of a specific fragment of the 16S rDNA sequence for the Identification of fishes, squids and mussels
IB-D039 2015-08	Sequence analysis of a specific fragment of the mitochondrial cytochrome c oxidase gene for the identification of fishes
IB-D040 2014-09	Sequence analysis of a specific fragment of the 16S rDNA sequence for the identification of *Eubacteria* in food- and feedstuffs, as well as seeds

1.4 Qualitative species detection in feed- and foodstuffs, seeds as well as textile fibres by PCR **

IB-A012 2006-02	Qualitative PCR system for the species specific detection of flax (*Linum usitatissimum*)
IB-A013 2006-02	Qualitative PCR system for the species specific detection of hemp (*Cannabis sativa*)
IB-A014 2006-02	Qualitative PCR system for the species specific detection of kenaf (*Hibiscus cannabinus*)
IB-A015 2006-02	Qualitative PCR system for the species specific detection of nettle (*Urtica dioica*)
IB-A016 2006-02	Qualitative PCR system for the species specific detection of ramie (*Boehmeria nivea)*
IB-D016 2004-11	Qualitative PCR screening system for the detection of poultry DNA
IB-D026 2012-02	Qualitative PCR system for the specific detection of rodents

IB-D027 2017-11	Qualitative PCR system for the species specific detection of rabbits (*Lepus* sp.)

1.5 Qualitative detection of species in feed- and foodstuffs, seeds as well as textile fibres by Real-Time-PCR **

IB-T004 2014-05	Qualitative Real-Time-PCR-system for the species specific detection of rice (*Oryza sativa*)
IB-T010 2019-06	Qualitative Real-Time-PCR-system for the species specific detection of cotton (*Gossypium* sp.)
IB-T015 2008-07	Qualitative Real-Time-PCR-system for the species specific detection of turkey (*Meleagris gallopavo*)
IB-T016 2019-07	Qualitative Real-Time-PCR-system for the species specific detection of chicken (*Gallus gallus*)
IB-T017 2019-08	Qualitative Real-Time-PCR-system for the species specific detection of pig (*Sus scrofa*)
IB-T018 2014-01	Qualitative Real-Time-PCR-system for the detection of mammal DNA (Mammalia)
IB-T020 2019-07	Qualitative Real-Time-PCR-system for the species specific detection of cattle (*Bos taurus*)
IB-T023 2016-04	Qualitative Real-Time-PCR-system for the species specific detection of rapeseed (*Brassica napus*)
IB-T024 2010-04	Qualitative Real-Time-PCR-system for the species specific detection of sunflower (*Helianthus annuus*)
IB-T028 2014-05	Qualitative Real-Time-PCR-system for the species specific detection of pistachio (*Pistacia vera*)
IB-T033 2011-07	Qualitative Real-Time-PCR-system for the sex determination (XY) of mammals (especially pig)
IB-T037 2013-01	Qualitative Real-Time-PCR-system for the species specific detection of pea (*Pisum sativum*)
IB-T038 2013-09	Qualitative Real-Time-PCR-system for the species specific detection of sesame (*Sesamum indicum*)

IB-T040 2014-11	Qualitative Real-Time-PCR-system for the species specific detection of cashew (*Anacardium occidentale*)
IB-T042 2013-04	Qualitative Real-Time-PCR-system for the species specific detection of peanut (*Arachis hypogaea*)
IB-T043 2019-08	Qualitative Real-Time-PCR-system for the species specific detection of lupine (*Lupinus* sp.)
IB-T044 2013-07	Qualitative Real-Time-PCR-system for the species specific detection of pecan (*Carya illinoiensis*)
IB-T045 2013-04	Qualitative Real-Time-PCR-system for the species specific detection of macadamia nut (*Macadamia* sp.)
IB-T052 2017-12	Qualitative Real-Time-PCR-system for the general detection of plant material
IB-T055 2012-11	Qualitative Real-Time-PCR-system for the detection of a natural infection with the Cauliflower Mosaic Virus (CaMV)
IB-T060 2013-11	Qualitative Real-Time duplex PCR system for the species specific detection of rapeseed (*Brassica napus*) and soybean (*Glycine max*)
IB-T061 2012-09	Qualitative Real-Time-PCR-system for the species specific detection of goat (*Capra hircus*)
IB-T062 2014-05	Qualitative Real-Time-PCR-system for the species specific detection of sheep (*Ovis aries*)
IB-T063 2019-07	Qualitative Real-Time-PCR-system for the general detection of fish DNA (Pisces)
IB-T066 2019-07	Qualitative Real-Time-PCR-system for the general detection of ruminant DNA (Ruminantia)
IB-T069 2013-04	Qualitative Real-Time-PCR-system for the species specific detection of soybean (*Glycine max*)
IB-T071 2019-07	Qualitative Real-Time-PCR-system for the species specific detection of ambrosia (*Ambrosia artemisiifolia*)
IB-T072 2019-07	Qualitative Real-Time-PCR-system for the species specific detection of almond (*Prunus dulcis*)

IB-T073 2013-05	Qualitative Real-Time-PCR-system for the species specific detection of apricot (*Prunus armeniaca*)
IB-T074 2013-03	Qualitative Real-Time-PCR-system for the species specific detection of horse (*Equus caballus*)
IB-T075 2019-07	Qualitative Real-Time-PCR-system for the species specific detection of potato (*Solanum tuberosum*)
IB-T076 2013-03	Qualitative Real-Time-PCR-system for the species specific detection of turkey (*Meleagris gallopavo)*
IB-T080 2019-07	Qualitative Real-Time-PCR-system for the species specific detection of black and brown mustard (*Brassica nigra* and *Brassica juncea*)
IB-T081 2013-07	Qualitative Real-Time-PCR-system for the detection of K*atsuwonus pelamis* and *Thunnus* species
IB-T082 2013-07	Qualitative Real-Time-PCR-system for the detection of *Thunnus* species
IB-T083 2019-07	Qualitative Real-Time-PCR-system for the detection of white mustard (*Sinapis alba*)
IB-T085 2019-08	Qualitative Real-Time-PCR-system for the species specific detection of goat (*Capra hircus*)
IB-T086 2013-09	Qualitative Real-Time-PCR-system for the species specific detection of celery (*Apium graveolens*)
IB-T088 2014-04	Qualitative Real-Time-PCR-system for the species specific detection of blue whiting (*Micromesistius poutassou*)
IB-T089 2014-04	Qualitative Real-Time-PCR-system for the species specific detection of capelin (*Mallotus villosus*)
IB-T090 2014-04	Qualitative Real-Time-PCR-system for the species specific detection of herring (*Clupea harengus*)
IB-T091 2014-05	Qualitative Real-Time-PCR-system for the species specific detection of sardine (*Sardina pilchardus*)
IB-T092 2014-04	Qualitative Real-Time-PCR-system for the specific detection of Mediterranean horse mackerel (*Trachurus mediterraneus*) and Atlantic horse mackerel (*Trachurus trachurus*)

IB-T093 2015-08	Qualitative Real-Time-PCR-system for the species specific detection of Peruvian anchoveta (*Engraulis ringens)*
IB-T094 2015-08	Qualitative Real-Time-PCR-system for the species specific detection of Atlantic mackerel (*Scomber scombrus*)
IB-T095 2018-01	Qualitative Real-Time-PCR-system for the species specific detection of Alaska pollock (*Theragra chalogramma*)
IB-T096 2015-07	Qualitative Real-Time-PCR-system for the species detection for the family of dogs (Canidae)
IB-T097 2015-07	Qualitative Real-Time-PCR-system for the species detection for the family of cats (Felidae)
IB-T098 2016-05	Qualitative Real-Time-PCR-system for the general detection of mitochondrial crustacean DNA (Crustaceae)
IB-T106 2014-05	Qualitative Real-Time-PCR-system for the detection of ruminant ingredients (TNO-Triskelion-System)
IB-T108 2014-06	Qualitative Real-Time-PCR-system for the species specific detection of *Ambrosia artemisiifolia*
IB-T109 2015-01	Qualitative Real-Time-PCR-system for the species specific detection of Atlantic salmon (*Salmo salar*)
IB-T110 2019-08	Qualitative Real-Time-PCR-system for the species specific detection of rainbow trout (*Oncorhynchus mykiss*)
IB-T111 2015-01	Qualitative Real-Time-PCR-system for the species specific detection of coconut (*Cocos nucifera*)
IB-T112 2017-02	Qualitative Real-Time-PCR-system for the species specific detection of goose (*Anser anser*)
IB-T113 2017-02	Qualitative Real-Time-PCR-system for the species specific detection of duck (Anatinae)
IB-T114 2015-02	Qualitative Real-Time-PCR-system for the species specific detection of guineafowl (*Numida meleagris*)
IB-T115 2015-02	Qualitative Real-Time-PCR-system for the species specific detection of quail (*Coturnix coturnix*)

IB-T117 2016-07	Qualitative Real-Time-PCR-system for the species specific detection of deer (*Capreolus capreolus*)
IB-T118 2016-11	Qualitative Real-Time-PCR-system for the specific detection of red and sika deer (*Cervus elaphus/Cervus nippon*)
IB-T119 2015-07	Qualitative Real-Time-PCR-system for the species specific detection of fallow deer (*Dama dama*)
IB-T120 2015-07	Qualitative Real-Time-PCR-system for the species specific detection of Pacific oyster (*Crassostrea gigas*)
IB-T122 2016-02	Qualitative Real-Time-PCR-system for the specific detection of octopus (Coleoidae)
IB-T124 2016-05	Qualitative Real-Time-PCR-system for the species specific detection of humpback salmon (*Oncorhynchus gorbuscha*)
IB-T127 2016-06	Qualitative Real-Time duplex PCR system for the species specific detection of hazelnut (*Corylus avellana*) and walnut (*Juglans regia*)
IB-T128 2016-07	Qualitative Real-Time-PCR-system for the species specific detection of mitochondrialer pullet DNA (*Gallus gallus*)
IB-T129 2016-07	Qualitative Real-Time-PCR-system for the specific detection of mitochondrial mammal DNA (Mammalia)
IB-T131 2019-09	Qualitative Real-Time-PCR-system for the specific detection of nuclear poultry DNA
IB-T132 2016-09	Qualitative Real-Time-PCR-system for the detection of species of the family camel (Camelidae)
IB-T150 2017-12	Qualitative Real-Time-PCR-system for the detection of Y chromosomal (male) DNA of cattle (*Bos taurus*)
IB-T156 2019-04	Qualitative Real-Time-PCR-system for the species specific detection of strawberry (*Fragaria* sp.)
IB-T157 2019-04	Qualitative Real-Time-PCR-system for the specific detection of ducks (*Anatinae*)
IB-T161 2020-04	Qualitative Real-Time-PCR-system for the general detection of chordata (with the exception of marsupials and fishes)

1.6 Qualitative detection of bacteria in food- and feedstuffs by Real-Time-PCR **

DIN CEN ISO/TS 17919 2014-03	Polymerase chain reaction for the detection of pathogenic microorganisms in foodstuffs - Detection of Botulinum-neurotoxin type A, B, E and F producing clostridia
ASU L 00.00-52 2014-02	Analysis of foodstuffs - Procedure for the detection of *Salmonella* spp. in foodstuffs - polymerase chain reaction (according to DIN 10135) (Deviation: *thermal cell disruption shortened to 10 min 95°C*)
ASU L 03.00-40 2013-08	Analysis of foodstuffs - Detection of *Listeria monocytogenes* in cheese; Real-Time PCR (Deviation: *all food- and feedstuff matrices; Listeria spp.-detection according to publication Barbau-Piednoir et al., 2013)*
ASU L 06.32-1 2013-08	Analysis of foodstuffs - Detection of *Campylobacter* spp. in minced meat; Real-Time PCR
S-062 2014-08	Qualitative Real-Time PCR procedure for the emetic toxin gene detection of *Bacillus cereus* in food- and feedstuffs
S-063 2018-02	Qualitative Real-Time Duplex PCR procedure for the detection of *Clostridium botulinum* C and D in food- and feedstuffs
S-064 2017-12	Qualitative Real-Time PCR procedure for the detection of *Enterobacter sakazakii* in food- and feedstuffs
S-066 2017-02	Qualitative Real-Time PCR procedure for the detection of *Listeria* spp. in food- and feedstuffs
S-087 2018-02	Qualitative Real-Time PCR procedure for the detection of *Clostridium perfringens* in food- and feedstuffs
S-101 2019-08	Qualitative Real-Time PCR procedure for the detection of *Staphylococcus aureus* in food- and feedstuffs

1.7 Quantitative detection of genetically modified organisms in food- and feedstuffs as well as seeds by Real-Time-PCR **

IB-Q002 /IB-Q009 2003-06	Screening procedure for the quantitative detection of a genetic modification (35S promoter) in maize
IB-Q004 / IB-Q015 2018-02	Quantitative, event specific detection of RoundupReady™ soybean

IB-Q012 / IB-Q009 2005-03	Quantitative, event specific detection of BT176 maize
IB-Q013 / IB-Q009 2005-07	Quantitative, event specific detection of GA21 maize
IB-Q014 / IB-Q009 2005-06	Quantitative, event specific detection of NK603 maize
IB-Q011 / IB-Q009 2007-01	Quantitative, event specific detection of MON810 maize
S-097 2019-10	Quantitative determination of living *Komagataella pastoris* cells in enzyme and vitamin products

1.8 Quantitative detection of genetically modified organisms and detection of cytoplasmatic male sterility (CMS) in food- and feedstuffs, seeds as well as textile fibres by digital droplet-PCR (ddPCR) **

IB-Txxx / IB-T010 according to S-016 2019-12	Quantitative, event specific detection of genetically modified cotton by ddPCR (Note: *all systems for specific detection of cotton gmo events listed in 1.2 are applicable in ddPCR for quantification*)
IB-Txxx / IB-Q009 according to S-016 2019-12	Quantitative, event specific detection of genetically modified maize by ddPCR (Note: *all systems for specific detection of maize gmo events listed in 1.2 are applicable in ddPCR for quantification*)
IB-Txxx / IB-T023 according to S-016 2019-12	Quantitative, event specific detection of genetically modified rapeseed by ddPCR (Note: *all systems for specific detection of rapeseed gmo events listed in 1.2 are applicable in ddPCR for quantification*)
IB-Txxx / IB-Q015 according to S-016 2019-12	Quantitative, event specific detection of genetically modified soybean by ddPCR (Note: *all systems for specific detection of soybean gmo events listed in 1.2 are applicable in ddPCR for quantification*)
IB-T099 2014-05	Quantitative detection of Ogura (CMS) and Non-Ogura (Non-CMS) in cabbage varieties (except for broccoli) by ddPCR
IB-T100 / IB-T101 2015-07	Quantitative detection of CMS (cytoplasmatic male sterility) and Non-Ogura in cabbage varieties and its products by ddPCR

IB-T105 2013-09	Quantitative detection of Restorer and Non-Restorer locus in rapeseed by ddPCR
IB-T116 2013-08	Quantitative detection of CMS (cytoplasmatic male sterility) and Non-Ogura in rapeseed by ddPCR
S-098 2019-10	Quantitative determination of non-vital *Komagataella pastoris* cells in enzyme and vitamin products by ddPCR
S-099 2019-10	Quantification of free cell DNA in microbiologically produced enzymes and vitamins by ddPCR

1.9 Quantitative detection of genetically modified organisms in food- and feedstuffs, seeds and textile fibres, as well as differentiation of sterile and fertile seeds by multiplex digital droplet PCR (ddPCR) **

IB-dQ001 2018-06	Quantitative event specific multiplex detection of GTS 40-3-2- (RRRS I), MON89788- (RRS II) and A2704-12 soybean (LibertyLink) as well as for the detection of the plant species soybean (*Glycine max*) by ddPCR
IB-dQ002 2019-06	Quantitative event specific multiplex detection of Ms8-, Rf3-, T45- and RT73 rapeseed as well as for the detection of the plant species rapeseed (CruA) by ddPCR
IB-dQ003 2019-09	Real Time duplex PCR system for the identification and quantification of fertile *Sorghum* seeds in sterile *Sorghum* seeds by ddPCR
IB-dQ004 2019-10	Quantitative event specific duplex detection of MON531 (Bollgard) cotton and MON15985 cotton by ddPCR

1.10 Qualitative and quantitative species detection in feed- and foodstuffs, as well as textile fibres by digital droplet-PCR (ddPCR) **

IB-Txxx / IB-T161 according to S-016 2019-12	Quantitative determination of the proportion of animal species DNA components relative to the total chordata DNA by ddPCR (Note: *all species-specific systems listed in 1.5 are applicable in ddPCR for quantification*)
IB-T082 / IB-T081 according to S-016 2019-12	Quantitative detection of *Katsuwonus pelamis* DNA components in the whole tuna DNA by ddPCR

IB-T133 2016-11	Qualitative Real-Time-PCR-system for the specific detection of ruminants (Ruminantia) by ddPCR
IB-T152 2018-02	Quantitative determination of the proportion of knotted wrack (*Ascophyllum nodosum*) to bladder wrack (*Fucus* spp.) by ddPCR

1.11 Quantitative species and variety differentiation in textile fibres by PCR fragment lengths (AFLP) analysis

S-042 2016-02	Quantitative determination of the proportion of *Gossypium hirsutum* and *Gossypium barbadense* DNA by AFLP analyses

2 Detection of allergens and BSE in food- and feedstuffs by enzyme-linked immunosorbent assay (ELISA) *

r-biopharm Ridascreen®FAST Gliadin Art. No. R7002 2018-02	Enzyme-linked immunosorbent assay for the quantitative determination of gliadins and related prolamins
r-biopharm Ridascreen®FAST Milk Art. No. R4652 2015-07	Enzyme-linked immunosorbent assay for the quantitative determination of milk protein
r-biopharm Ridascreen®FAST Ei / Egg Protein Art. No. R6402 2015-12	Enzyme-linked immunosorbent assay for the quantitative determination of whole egg (powder)
r-biopharm Ridascreen ® Risk Material 10/5 Art. No. R6703 2010-07	Enzyme-linked immunosorbent assay for the quantitative determination of risk material (CNS) in/on raw meat and contaminated surfaces
r-biopharm Ridascreen ®FAST Soya Art. No. R7102 2016-07	Enzyme-linked immunosorbent assay for the quantitative determination of soya protein

3 Microbiological analyses of food- and feedstuffs

3.1 Sample preparation for cultural microbiological analyses of food- and feedstuffs

DIN EN ISO 6887-2 2017-07	Microbiology of the food chain - Preparation of test samples, initial suspension and decimal dilutions for microbiological examination - Part 2: Specific rules for the preparation of meat and meat products
DIN EN ISO 6887-3 2017-07	Microbiology of the food chain - Preparation of test samples, initial suspension and decimal dilutions for microbiological examination - Part 3: Specific rules for the preparation of fish and fishery products
DIN EN ISO 6887-4 2017-07	Microbiology of the food chain - Preparation of test samples, initial suspension and decimal dilutions for microbiological examination Part 4: Specific rules for the preparation of miscellaneous products
ASU L 01.00-1 2011-06	Analysis of foodstuffs - Preparation of test samples, initial suspension and decimal dilutions for microbiological examination - Part 5: Specific rules for the preparation of milk and dairy products (Adoption of the correspondent norm DIN EN ISO 6887-5 2011-01)

3.2 Detection and determination of bacteria, yeasts and moulds in food- and feedstuffs by cultural microbiological analyses **

ISO 15214 1998-08	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of mesophilic lactic acid bacteria - Colony-count technique at 30°C
DIN EN ISO 10272-1 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Campylobacter* spp. - Part 1: Detection method
DIN EN ISO 10272-2 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Campylobacter* spp. – Part 2: Colony-count technique
DIN EN ISO 11290-1 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 2: Detection method
DIN EN ISO 11290-2 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 2: Enumeration method

DIN EN ISO 11290-2 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Listeria monocytogenes* and of *Listeria* spp. - Part 2: Enumeration method (Deviation: *Use of Brilliance Listeria agar plates*)
DIN EN ISO 16649-3 2018-01	Microbiology of the food chain - Horizontal method for the enumeration of beta-glucuronidase-positive *Escherichia coli* - Part 3: Detection and most probable number technique using 5-bromo-4-chloro-3-indolyl-ß-D-glucuronide
DIN EN ISO 21528-2 2017-09	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Enterobacteriaceae* - Part 2: Colony-count technique (Deviation: *spatula method*)
DIN EN ISO 22964 2017-08	Microbiology of the food chain - Horizontal method for the detection of *Cronobacter* spp.
ASU F 0051 2010-09	Animal feeding stuffs - Isolation and enumeration of *Enterococcus* (*E. faecium*) spp. (Adoption of the correspondent norm DIN EN ISO 15788 2009-12)
ASU L 00.00-20 2018-03	Microbiology of the food chain - Horizontal method for the detection, enumeration and serotyping of *Salmonella* - Part 1: Detection of *Salmonella* spp. (Adoption of the correspondent norm DIN EN ISO 6579-1 2017-07) (Deviation: *no serotyping*)
ASU L 00.00-33 2006-09	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of presumptive *Bacillus cereus* - Colony-count technique at 30°C (Adoption of the correspondent norm DIN EN ISO 7932 2004-03)
ASU L 00.00-55 2004-12	Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) - Part 1: Technique using Baird-Parker agar medium (Adoption of the correspondent norm DIN EN ISO 6888-1 2003-12) (Deviation: *coagulase test using DrySpotStaphytect Plus*)
ASU L 00.00-88/2 2015-06	Microbiology of the food chain - Horizontal method for the enumeration of microorganisms - Part 2: Colony count at 30°C by the surface plating technique (Adoption of the correspondent norm DIN EN ISO 4833-2 2014-05)

ASU L 00.00-133/1 2018-03	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Enterobacteriaceae* - Part 1: MPN procedure (Adoption of the correspondent norm DIN EN ISO 21528-1 2017-09) (Deviation: *secondary pre-enrichment*)
ASU L 00.00-133/2 2018-03	Microbiology of the food chain - Horizontal method for the detection and enumeration of *Enterobacteriaceae* - Part 2: colony count procedure (Adoption of the correspondent norm DIN EN ISO 21528-2 2017-09)
ASU L 01.00-3 1987-03	Analysis of foodstuffs - Detection of coliforms in milk, dairy products, butter, cheese and ice cream; procedure with solid media (Deviation: *Spatula method; all food- and feedstuff matrices*)
ASU L 01.00-37 1991-12	Analysis of foodstuffs - Enumeration of yeasts and moulds in milk and dairy products; Reference procedure (Deviation: *Spatula method; all food- and feedstuff matrices*)
ASU L 01.00-57 1995-01	Analysis of foodstuffs - Enumeration of bacterial count in milk and dairy products; Spatula method (Adoption of the correspondent norm DIN 10192-5 1995-05)
ASU L 06.00-18 1984-05	Analysis of foodstuffs - Determination of total viable count in meat and meat products at 30°C; Spatula method and method with poured plates (reference procedure) (Adoption of the correspondent norm DIN 10161-1 1984-02)
ASU L 06.00-39 1994-05	Analysis of foodstuffs - Determination of mesophilic sulfite-reducing clostridia in meat and meat products - method with poured plates (reference procedure) (Adoption of the correspondent norm DIN 10103 1993-08) (Deviation: *all food- and feedstuff matrices, Spatula method*)
ASU L 06.00-43 2011-06	Analysis of foodstuffs - Enumeration of *Pseudomonas* spp. in meat and meat products (Adoption of the correspondent norm DIN EN ISO 13720 2010-12) (Deviation: *all food- and feedstuff matrices*)
S-051 2018-07	Colony count procedure for the determination of total anaerobic bacterial count in food- and feedstuffs
S-052 2018-07	Colony count procedure for the determination of *Escherichia coli* and other coliforms in food- and feedstuffs

S-057 2018-07	Colony count procedure for the determination of aerobic spore-forming bacteria in food- and feedstuffs
S-058 2018-07	Colony count procedure for the determination of anaerobic spore-forming bacteria in food- and feedstuffs
S-082 2018-07	Cultural method for the detection of methicillin-resistant *Staphylococcus aureus* (MRSA) in food- and feedstuffs (after pre-enrichment culture)
S-083 2018-07	Cultural method for the detection of ESBL producing bacterial count in food- and feedstuffs (after pre-enrichment culture)
S-092 2018-07	Cultural method for the detection of *Clostridium perfringens* in food- and feedstuffs (after pre-enrichment culture)

3.3 Microbiological test system for the detection of antibiotic residues in food- and feedstuffs

r-biopharm Premi®Test Art. Nr. R3925 2014-10	Microbiological screening procedure for the detection of antibiotic residues in shrimps, fish, eggs, meat (cattle, pig, poultry), liver, kidney, urine and feedstuffs

4 Physical, physiochemical and chemical analyses of food- and feedstuffs (with the exception of child and baby food)

4.1 Determination of residues, contaminants, mycotoxins and additives in food- and feedstuffs by Liquid Chromatography with mass selective detection (LC/MS) **

S-079 2018-05	Multi-method for the identification and quantification of mycotoxins in food- and feedstuffs by LC/MS (extraction by QuEChERS method)
S-091 2018-06	Multi-method for the identification and quantification of ethoxyquin and ethoxyquin metabolites in food- and feedstuffs by LC/MS
S-093 2018-05	Multi-method for the identification and quantification of inositol phosphates in food- and feedstuffs by LC/MS
S-100 2019-12	Multi-method for the identification and quantification of antioxidants in food- and feedstuffs by LC/MS

S-102 2019-12	Multi-method for the identification and quantification of veterinary drug residues in food- and feedstuffs by LC/MS

4.2 Physical analyses

S-103 2020-04	Determination of moisture content in food- and feedstuffs by moisture analyzer

4.3 Chemical analyses

S-104 2020-04	Nitrogen, respective protein, determination in food- and feedstuffs by Dumas procedure

Abbreviations used:

ASU	The official collection of analysis methods according to § 64 of the German Food and Feed Code (LFGB)
ddPCR	digital droplet PCR
DIN	German national organization for standardization
DNA	Desoxyribonucleic acid (Desoxyribonukleinsäure)
ELISA	Enzyme Linked Immunosorbent Assay
EN	European Norm
IB-XXXX	In-house procedure of Impetus GmbH & Co. Bioscience KG
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LC/MS	Liquid chromatography with mass spectrometric detection
PCR	Polymerase chain reaction
S-XXX	In-house procedure of Impetus GmbH & Co. Bioscience KG